Index of Authors and Papers

Adamashvili, G.T., Nonlinear waves in an anharmonic and dispersive medium with a two-phonon resonance transition ´ 202 (1994) 104
Amoretti, G., see R. Caciuffo 202 (1994) 279
Asmussen, B., D. Balszunat, W. Press, M. Prager, C.J. Carlile and H. Büttner, Quantum rotation of methane in argon: The isotope effect 202 (1994) 224
Atea, Y.S.Y., see I.F.I. Mikhail 202 (1994) 175
Avishai, Y., see J. Cohen, 202 (1994) 91

Balszunat, D., see B. Asmussen 202 (1994) 224
Barrue, R., see E. Saint-Christophe 202 (1994) 111
Blazina, Z., Structural and magnetic studies of the $CeIr_{5-x}Al_x$ and $CeIr_{5-x}Ga_x$ systems 202 (1994) 11
Brabers, J.H.V.J., G.F. Zhou, J.H.P. Colpa, K.H.J. Buschow and F.R. de Boer, Competing exchange interactions and their relevance for the magnetisation process in $RMn_{6-x}Cr_xSn_6$ powders (R = Y, Gd, Tb, Dy, Ho, Er) 202 (1994) 1
Braun, D. and U. Weiss, Rotational tunnelling and librational excitations: The loss of quantum coherence 202 (1994) 264
Büttner, H., see B. Asmussen 202 (1994) 224
Burlet, P., see R., Troc 202 (1994) 167
Buschow, K.H.J., see J.H.V.J. Brabers 202 (1994) 1

Caciuffo, R., G. Amoretti, C.J. Carlile, F. Fillaux, O. Francescangeli, M. Prager and F. Ugozzoli, Methyl group tunnelling studies in calixarenes 202 (1994) 279
Cannelli, G., R. Cantelli, F. Cordero and F. Trequattrini, Four-level tunnel system of H trapped by a substitutional impurity in Nb 202 (1994) 229
Cantelli, R., see G. Cannelli 202 (1994) 229
Carlile, C.J., see B. Asmussen 202 (1994) 224
Carlile, C.J., see R. Caciuffo 202 (1994) 279
Carlile, C.J., see F. Fillaux 202 (1994) 302
Carlile, C.J., see J. Meinnel 202 (1994) 293
Carlile, C.J., see M. Havighorst 202 (1994) 355
Carlile, C.J., see M. Prager 202 (1994) 360
Carlile, C.J., see R., Mukhopadhyay 202 (1994) 287
Carlile, C.J., see S. Takeda 202 (1994) 315
Carrié, R., see J. Meinnel 202 (1994) 293
Chand, P., see S.K. Misra 202 (1994) 31
Chi-Suan Wang, see Der-San chuu 202 (1994) 118
Clough, S., Coherent methyl dynamics 202 (1994) 256
Clough, S., see J.H. Sutcliffe 202 (1994) 339
Clough, S., see P.M. Debenham 202 (1994) 364
Cohen, J. and Y. Avishai, Scattering of edge states in quasi-one-dimensional periodic systems 202 (1994) 91
Colpa, J.H.P., see J.H.V.J. Brabers 202 (1994) 1
Cordero, F., see G. Cannelli 202 (1994) 229

Damyanovich, A.Z., J. Peternelj and M.M. Pintar, Observation of the $\Delta M = 0$ Clough tunnelling satellite in the normal and tilted rotating frame 202 (1994) 273
De Boer, F.R., see J.H.V.J. Brabers 202 (1994) 1
Debenham, P.M., A.J. Horsewill, I.B.I. Tomsah and S. Clough, Low field NMR investigations of methyl tunnelling 202 (1994) 364
Debenham, P.M., see P.J. McDonald 202 (1994) 346
Der-San Chuu and Chi-Suan Wang, Electronic energy spectrum in a barrier-like multilayer quantum wire with a magnetic field parallel to the wire axis 202 (1994) 118
Deutsch, C. and A. Hüller, Quantum rotator under the influence of stochastic kicks 202 (1994) 320
Diezemann, G. and W. Häusler, Symmetry species conversion in CD_3 systems 202 (1994) 246

Fillaux, F., C.J. Carlile, G.J. Kearley and M. Prager, Inelastic neutron-scattering study of methyl tunnelling and the quantum sine-Gordon breather mode in isotopic mixtures of 2,6-dimethyl-pyridine at low temperature 202 (1994) 302
Fillaux, F., see R. Caciuffo 202 (1994) 279
Francescangeli, O., see R. Caciuffo 202 (1994) 279

Gao, N.F., see Y.J. Tang 202 (1994) 188

Häusler, see G. Diezemann 202 (1994) 246
Havighorst, M., M. Prager and C.J. Carlile, Rotational excitations of partially deuterated ammonia $NH_{3-n}D_n$ in argon matrices 202 (1994) 355
Hayes, W., see V.M. Nield 202 (1994) 159
Heidemann, A., New methods in high resolution neutron spectroscopy 202 (1994) 207

Hennion, B., see J. Meinnel 202 (1994) 293
Horsewill, A.J., see M. Van Cleemput 202 (1994) 311
Horsewill, A.J., see P.J. McDonald 202 (1994) 346
Horsewill, A.J., see P.M. Debenham 202 (1994) 364
Hüller, A., see C. Deutsch 202 (1994) 320

Ikeda, S., see S. Takeda 202 (1994) 315
Inaba, A., Calorimetric studies of tunneling phenomena 202 (1994) 325
Ivanov, B.A., N.E. Kulagin and K.A. Safaryan, Dynamics of domain walls (solitons) in ferromagnets in a magnetic field perpendicular to the easy axis 202 (1994) 193

Jarlborg, T., see P. Lerch 202 (1994) 134
John Lekner, Reflection of neutrons by periodic stratifications 202 (1994) 16
Johnson, M.R., Driven tunnelling: New methods in NMR spectroscopy 202 (1994) 215

Kaczorowski, D., see R., Troc 202 (1994) 167
Karlsson, E., New aspects on the tunneling of light interstitial particles in solids 202 (1994) 234
Kataoka, H., see S. Takeda 202 (1994) 315
Kearley, G.J., see F. Fillaux 202 (1994) 302
Keen, D.A., see V.M. Nield 202 (1994) 159
Kulagin, N.E., see B.A. Ivanov 202 (1994) 193

Lambert, J.B., see H. Schulte 202 (1994) 351
Lambert-Andron, B., see J. Pierre 202 (1994) 143
Lerch, P. and T. Jarlborg, A fast method for non-spherical potential corrections in LMTO 202 (1994) 134
Li, Zhen-Ya, see Shen, Ming-Rong 202 (1994) 127
Liu, Z.S., M. Punkkinen, A.H. Vuorimäki and E.E. Ylinen, Effect of the grain size on the tunnel distribution in $(NH_4)_2ZnCl_4$ 202 (1994) 343
Luo, H.L., see Y.J. Tang 202 (1994) 188

Major, M.M., P.H.M. van Loosdrecht, H. van Kempen, S.B. Molnar and V.Yu. Slivka, Thermal expansion at the incommensurate phase transition in $[N(CH_3)_4]_2ZnCl_{4-x}Br_x$ crystals 202 (1994) 152
Mani, M., see J. Meinnel 202 (1994) 293
Matsuo, T., see S. Takeda 202 (1994) 315
McDonald, P.J., D. Vijayaraghavan, P.M. Debenham and A.J. Horsewill, The pressure dependence of molecular dynamics measured by NMR 202 (1994) 346
McGreevy, R.L., see V.M. Nield 202 (1994) 159
Meinnel, J., M. Mani, M. Nusimovici, C.J. Carlile, B. Hennion, R. Carrié, B. Wyncke, M. Sanquer and F. Tonnard, Methyl tunnelling in pure and matrix isolated halogenomesitylenes 202 (1994) 293
Mikhail, I.F.I. and Y.S.Y. Atea, Magneto-optical transport properties of bismuth in the case of a strong quantizing magnetic field 202 (1994) 175
Misiak, L.E., see S.K. Misra 202 (1994) 31
Misra, S.K., L.E. Misiak and P. Chand, Variable temperature EPR study of a $Ni_2CdCl_6 \cdot 12H_2O$ single crystal 202 (1994) 31
Mohammad El-Said, Effect of applied magnetic field on the energy levels of shallow donors in a parabolic quantum dot 202 (1994) 202
Molnar, S.B., see M.M. Major 202 (1994) 152
Monkenbusch, M., see M. Prager 202 (1994) 252
Moustanis, P.N. and S. Thanos, The antiferromagnetic Heisenberg cube 202 (1994) 65
Moustanis, P.N. and S. Thanos, Exact eigenvalues and thermodynamics of the 4×4 triangular Heisenberg antiferromagnet 202 (1994) 75
Müller-Warmuth, W., see H. Schulte 202 (1994) 351
Mukhopadhyay, R., J. Tomkinson and C.J. Carlile, Matrix isolation to orientational glass: NH_4^+ ions in ammonium–alkali metal halide mixtures 202 (1994) 287

Napoli, F., M. Sassetti and U. Weiss, Two-phonon processes in the two-state dynamics 202 (1994) 80
Nield, V.M., R.L. McGreevy, D.A. Keen and W. Hayes, Structural disorder in CuBr 202 (1994) 159
Noël, H., see R., Troc 202 (1994) 167
Nusimovici, M., see J. Meinnel 202 (1994) 293

Pan, S.M., see Y.J. Tang 202 (1994) 188
Perron, J.C., see E. Saint-Christophe 202 (1994) 111
Peternelj, J., see A.Z. Damyanovich 202 (1994) 273
Pierre, J., B. Lambert-Andron, R.V. Skolozdra, J. Rodriguez-Carvajal and K. Kaczmarska, Frustration of magnetic interactions in heavy fermion compounds: $CeNi_{2-x}Sn_2$ and other 1:2:2 compounds 202 (1994) 143
Pintar, M.M., see A.Z. Damyanovich 202 (1994) 273
Prager, M., N. Wakabayashi and M. Monkenbusch, A consistent view of methyl rotational tunnelling and lattice dynamics in acetamide 202 (1994) 252
Prager, M., U. Zachwieja and C.J. Carlile, Tunnelling of coupled methyl groups in $Sn_2(CH_3)_6$ 202 (1994) 360
Prager, M., see B. Asmussen 202 (1994) 224
Prager, M., see F. Fillaux 202 (1994) 302
Prager, M., see M. Havighorst 202 (1994) 355
Prager, M., see R. Caciuffo 202 (1994) 279
Press, W., see B. Asmussen 202 (1994) 224
Punkkinen, M., see Z.S. Liu 202 (1994) 343

Reding, M.T., see H. Schulte 202 (1994) 351
Rodriguez-Carvajal, J., see J. Pierre 202 (1994) 143
Rossat-Mignod, J., see R., Troc 202 (1994) 167

Safaryan, K.A., see B.A. Ivanov 202 (1994) 193
Saint-Christophe, E., R. Sardos, R. Barrue and J.C. Perron, FMR studies of $Co_{70}(FeMo)_2Mn_5(BSi)_{23}$ amorphous ribbons: Polishing effect 202 (1994) 111
Sanquer, M., see J. Meinnel 202 (1994) 293
Sardos, R., see E. Saint-Christophe 202 (1994) 111
Sassetti, M., see F. Napoli 202 (1994) 80
Schulte, H., W. Müller-Warmuth, M.T. Reding and J.B. Lambert, Dynamics of partially deuterated methyl groups as studied by ^2H NMR 202 (1994) 351
Shen, Ming-Rong and Li, Zhen-Ya, Interface spin-waves of two coupled semi-infinite magnetic superlattices 202 (1994) 127
Shibata, K., see S. Takeda 202 (1994) 315
Singh, N. and B.S. Yadav, Lattice dynamics of transition metals in real space 202 (1994) 23
Sivia, D.S., From Bayes to tunnelling spectroscopy 202 (1994) 332
Skolozdra, R.V., see J. Pierre 202 (1994) 143
Slivka, V.Yu., see M.M. Major 202 (1994) 152
Sutcliffe, J.H. and S. Clough, Rotational trajectories of methyl groups 202 (1994) 339

Takeda, S., H. Kataoka, K. Shibata, S. Ikeda, T. Matsuo and C.J. Carlile, Quantum precession of HCl molecule in hydroquinone clathrate 202 (1994) 315
Tang, Y.J., N.F. Gao, S.M. Pan and H.L. Luo, Magnetic moment analysis of $Ho(Fe_{1-x}Mn_x)_2$ intermetallic compounds 202 (1994) 188
Thanos, S., Spin-Hamiltonians by means of hierarchies of group-indexed algebras: (II) The eigenstates and matrix elements of the spin-Hamiltonian in the frame of the hierarchy of algebras 202 (1994) 47
Thanos, S., see A.K. Theophilou 202 (1994) 41
Thanos, S., see P.N. Moustanis 202 (1994) 65
Thanos, S., see P.N. Moustanis 202 (1994) 75
Theophilou, A.K. and S. Thanos, Spin-Hamiltonians by means of hierarchies of group-indexed algebras: (I) The hierarchy of algebras 202 (1994) 41
Tomkinson, J., see R., Mukhopadhyay 202 (1994) 287
Tomsah, I.B.I., see P.M. Debenham 202 (1994) 364
Tonnard, F., see J. Meinnel 202 (1994) 293
Trequattrini, F., see G. Cannelli 202 (1994) 229
Troc, R., P. Burlet, H. Noël, D. Kaczorowski and J. Rossat-Mignod, A study of the magnetic behaviour of $UNi_{1.6}AS_2$ 202 (1994) 167

Ugozzoli, F., see R. Caciuffo 202 (1994) 279

Van Cleemput, M., A.J. Horsewill and L. Van Gerven, An NMR investigation of the dynamics of a methyl group with tunneling frequency 3.4 MHz 202 (1994) 311
Van Gerven, L., see M. Van Cleemput 202 (1994) 311
van Kempen, H., see M.M. Major 202 (1994) 152
van Loosdrecht, P.H.M., see M.M. Major 202 (1994) 152
Vijayaraghavan, D., see P.J. McDonald 202 (1994) 346
Voll, G., Rotational tunnelling spectra for many coupled methyl rotors 202 (1994) 239
Vuorimäki, A.H., see Z.S. Liu 202 (1994) 343

Wakabayashi, N., see M. Prager 202 (1994) 252
Weiss, U., see F. Napoli 202 (1994) 80
Weiss, U., see D. Braun 202 (1994) 264
Wyncke, B., see J. Meinnel 202 (1994) 293

Yadav, B.S., see N. Singh 202 (1994) 23
Ylinen, E.E., see Z.S. Liu 202 (1994) 343

Zachwieja, U., see M. Prager 202 (1994) 360
Zhou, G.F., see J.H.V.J. Brabers 202 (1994) 1

Analytic Subject Index

Acetamide 252
Algebras, group-indexed 41, 47
Ammonium ion tunnelling 287
Amorphous ribbons 111
Anharmonic media 104

Band structure 134
Bayesian statistics 332
Bi 175
Breather modes 302
Buckingham potentials 293

Calixarenes 279
Calorimetry 325
$CeIr_{5-x}Al_x$ 11
$CeIr_{5-x}Ga_x$ 11
$CeNi_{2-x}Sn_2$ 143
$Co_{70}(FeMo)_2Mn_5(BSi)_{23}$ 111
Correspondence principle 256
Coupled methyl groups 215, 239, 302, 360
Coupling to environment 264, 320
Crystal structure 167
CuBr 159

Deuterated methyl groups 246, 302, 351
Deuteron NMR 351
Dissipative quantum systems 320
Domain wall dynamics 193
Driven tunnelling 215, 364

Edge states 91
Elastic constants 134
Elastic energy loss spectroscopy 229
Energy spectrum 75, 118
EPR 31
Exchange interactions 1

Fast-ion conductor 159
Ferromagnets 193
FMR 111
Free rotation 224, 279, 287, 320, 355

Grain size 343

H in Ni 229
HCl 315

Heat capacity 325
Heavy fermion compounds 143
Heisenberg antiferromagnets 75
Heisenberg cube 65
Hierarchy of algebras 41, 47, 65, 75
High-field magnetisation measurements 1
$Ho(Fe_{1-x}Mn_x)_2$ 188

Inclusion compounds 279, 315
Incommensurate phase transition 152
Intermetallic compounds 188
Ion–ion interaction 23

Kicked dynamics 320

Lattice dynamics 23
Librational modes 264, 293
Linear chains 239
Lithium acetate 239, 302
LMTO method 134
Low-field NMR spectroscopy 215, 311

4-Methyl pyridine 207, 239, 279, 302, 325
Magnetic frustration 143
Magnetic moment analysis 188
Magnetic structure 1, 167
Magnetic studies 11
Magnetic transitions 167
Magneto-optical transport 175
Matrix isolation 224, 287, 293, 355
Methane in rare gases 224
Methyl group librations 252
Multilayers 118
Muons in Al 234

$1/N$ expansion method 202
$[N(CH_3)_4]_2ZnCl_{4-x}Br_x$ 152
NH_3 in Ar 355
Neutron spectroscopic methods 207
Neutrons 16
Nickel cadmium double salt 31
NMR level crossing spectroscopy 343
Nonlinear waves 104

Partially deuterated methane 224
Partially deuterated ammonia 355
Peptide bonds 252
Phase transitions 315, 325
Piezoelectricity 31
Pressure dependence of tunnelling 346
Probability theory 332
Proton–deuteron exchange 355

Quantizing magnetic fields 175
Quantum dots 202
Quantum precession 315
Quantum rotator 320
Quantum wires 118
Quasi-1D periodic systems 91

R–Mn intermetallics 1
Reflection 16
Reverse Monte Carlo method 159
Rotating frames 273
Rotational trajectories 256, 339

Scattering 91
Shallow donors 202
Sine-Gordon equation 302
Solitons 193
Spin conversion 246
Spin dynamics 256
Spin Hamiltonians 47
Spin systems 41
Spin-Hamiltonian parameters 31
Spin-wave modes 127
Superlattices 127

Thermodynamics 75
Toluene 279
Translational tunnelling 229
Trapping by impurities 229, 234
Tunnelling of muons 234
Two-phonon processes 80
Two-phonon resonance transition 104
Two-state dynamics 80

$UNi_{1.6}As_2$ 167